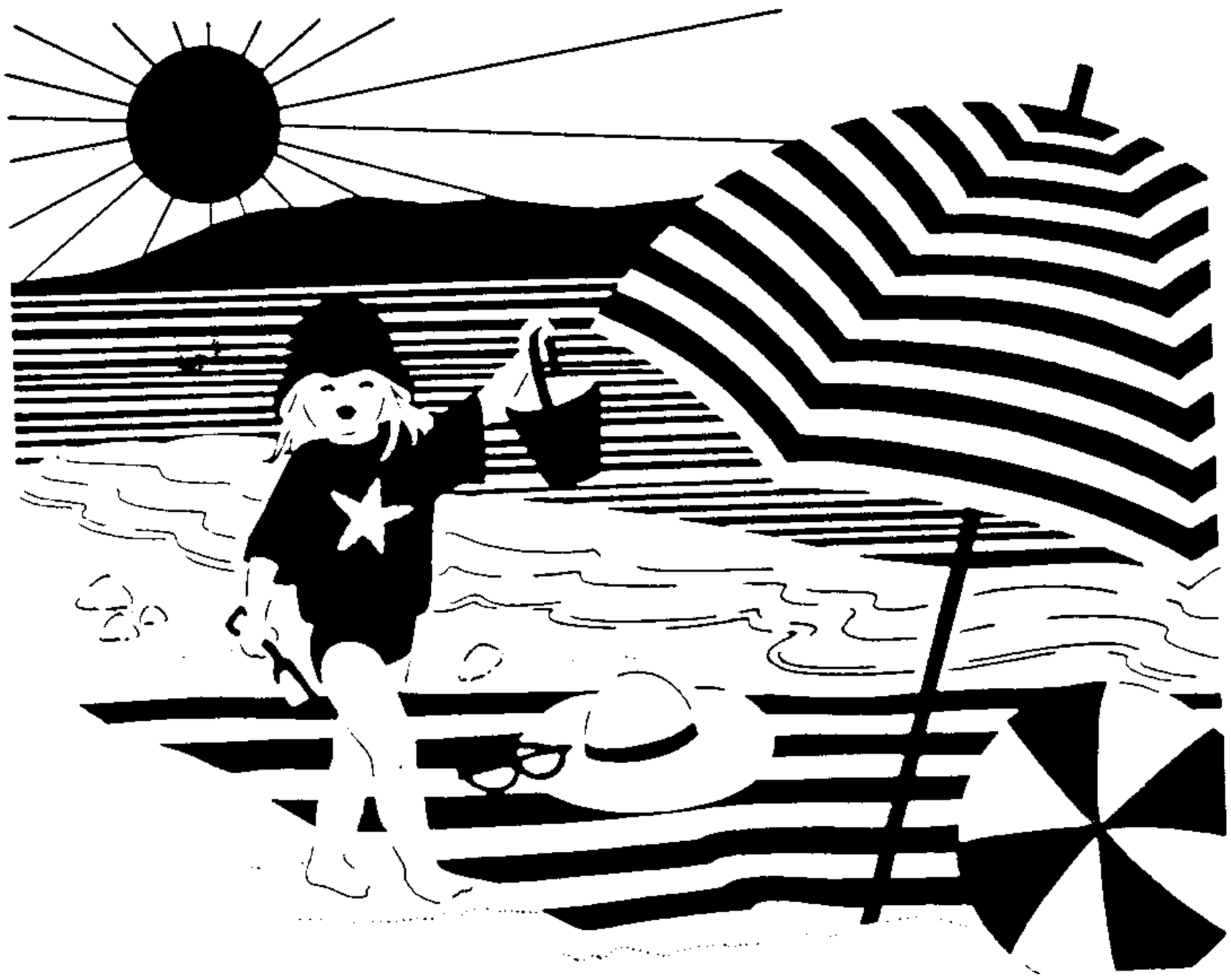
CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

GET READY FOR THE AUCTION
UG PLANS PICNIC FOR JULY 2
TI TRIVIA — INSIDE

JUNE 1989
EDITOR: Bob Demeter



NEW MEETING PLACE - - -
This month's meeting will be Saturday June 3rd. at the AMERICAN LEGION HALL in Hillside. Annual Auction. Meeting time: 1-3 pm

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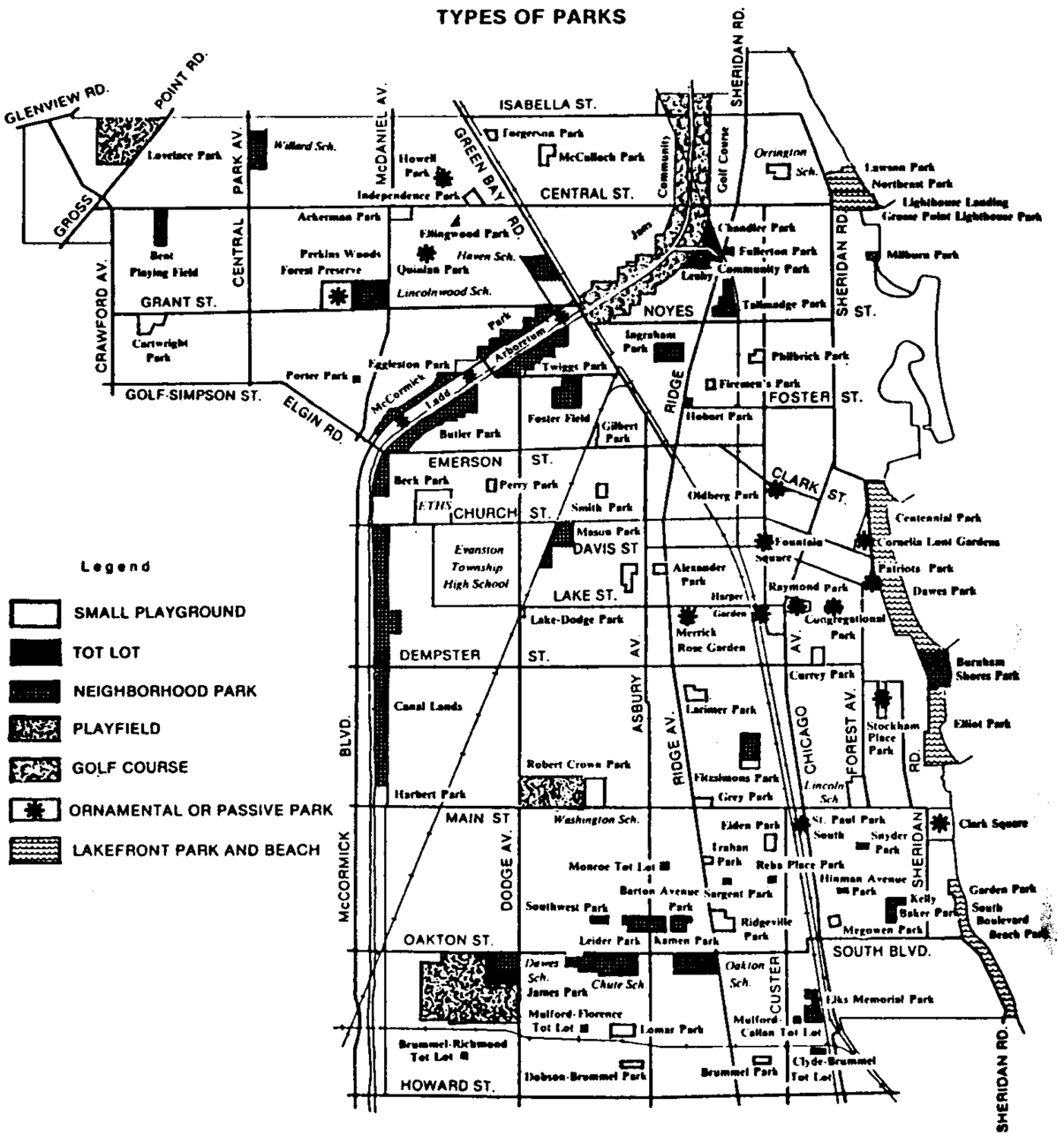
CALL THE BBS AT 312 862-0182
HOT LINE # 312 869-4304



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MEETING DATES

We have moved our meetings to the Broadview American Legion Hall 4941 Butterfield Rd. Hillside, Ill. The Executive board meets from 11 to 1. The regular meeting is from 1 to 3 pm. All are invited to attend. The June meeting will be Saturday June 3rd. OUR ANNUAL AUCTION.
The Sept meeting will be the SECOND SATURDAY 9/9/89
The Oct meeting is on Saturday 10/7/89
The November meeting is our ANNUAL FAIRE. 11/4/89
The December meeting is Saturday 12/2/89
Our next informal get together will be at the picnic July 2. Please read the article for details.

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Thankyou Programmers

The Chicago TI User Group would like to thank ALL the entrants in our 1989 Programming Contest. From what I heard, the judging was quite hard this year. ALL the programs were good enough to be winners. We would like to thank the following people for their entries and congratulate them on their fine programming talents.

William Reeves
Carl Schwerin
Carl Martikean
Tony Zlotorzynski
James Divovo
Danny Goldstein
Jon H. Burdach
Oscar Bretana
Keith Nicolar
Oliver Herbert
Louis Sortman
Charles Kirkwood

All of you will be receiving coupons worth free disks from the library.

It has been customary to place the winning disks into the library. This year I think we'll place ALL the entries in the library. No sense in wasting good programs. Lets let everyone enjoy them.

Thanks again to all that entered. Congratulations to all the winners. I hope we see you all back next year with new ideas to demonstrate your programming talents. -bd.

More Thanks

As newsletter editor, I'd like to thank the authors that have supported me over the past 8 months. Your articles have helped make this a premium newsletter. I bow to you and thank you for your fine articles. Yes, I put the whole thing together. But, without you, there'd be nothing to put together.

Without hurting anyones feelings, I'd especially like to thank Bill Gaskill for his extremely informative articles. Bill, you are superb. Your articles have helped increase interests in this newsletter. I don't know where you get all your fantastic information, but please keep it coming.

TIDBIT

Jim Derk has informed me there is mistake in the speech card article from last month. He built the thing a few months ago. He says it doesn't work. When he gets it corrected, he will write an article.

Have a safe and happy summer everyone. Maybe we'll see you at the picnic on July 2th. in Evanston. -bd.

JULY PICNIC

The Chicago TI User's Group will host a picnic on Sunday, July 2, at Northeast Park, in Evanston. This will be a family event, with lots of activities for the whole family. We will have food and beverages, games, tours of the historic Gross Pointe lighthouse, and lots, lots more.

Northeast Park is located at the intersection of Sheridan Road and Central Street, in Evanston, less than five minutes drive from I-94. The picnic will begin around 10 a.m., and will continue all day. Swimming is also available for a small daily fee. We will have a pavillion, just in case of inclement weather. A large playground is there for the younger children, and plenty of room for softball, volleyball, frisbee, or just loafing around. And, because the park is right on the lakefront there is sure to be a cooling breeze in case of another summer like last year. A nature center is located a few steps away, as is the Evanston Art Center, which often has exhibits during this time of the year. Both are open to the public, and are free. There is a small charge to tour the lighthouse keepers' quarters, the small museum, and to climb to the top of the 120-foot tall lighthouse.

For those coming from any great distance, the easiest way to reach the picnic is to take I-94 to the Old Orchard exit. Go East on Old Orchard Road past the Old Orchard shopping mall, crossing Skokie Boulevard (Route 41) and continuing about three-quarters of a mile until you reach Gross Point Road. At Gross Point Road, turn left and proceed to the first stop light, Central Street. Turn right on Central and continue East until you see the lighthouse. You can't miss it beacuse the street stops at the base of the lighthouse. The journey on Central is about two miles, and takes you past Dyche Stadium. You also pass under the tracks of the Chicago and Northwestern Railway, and the tracks of the CTA El trains.

If you wish to come by El, get off at the Central Street station in Evanston and walk four blocks East to the lighthouse. The CNW also has a Central Street station, but the walk is few blocks further. Evanston bus route 201 runs just two blocks from the lighthouse. Ask the driver to let you off when he turns from Sherman Avenue onto Central Street. For those coming by boat, Wilmette Harbor is just one-half mile north. And for those planning to attend by plane, I suggest you reconsider.

I have put in a requisition for a pleasant day with the Clerk of the Weather, so I'm sure that we will have good summer climate by the time the picnic rolls around. Hope to see everyone there, and don't forget to bring the family. If you get lost, or just want more information, give me a call at 864-8644, or leave me a message on the User Group BBS, or on Hank Ellerman's BBS. --Hal Shanafield

MINUTES BY MARCY

The Executive Board Meeting of May 13, 1989 was brought to order at 11:30 am.

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The agenda and the minutes of the last meeting were approved.

-----We are still looking for a replacement for Mike Chappel to be Publicity Chairman. If anyone is interested please contact Don Jones on the Hot Line #312/869/4304 or leave a message for him on the Bulletin Board #312/862/0182.

-----We are still attemping to contact Chuck Hoff for an accounting of all the groups equipment. Chuck is in charge of contacting all the Executive Board Members and making a list of what equipment they are in possesion of that belongs to the group.

-----Don brought up the project which Jim Horn had mentioned at the Faire. This is the idea of the user group working as a broker for closeted TIs. Whereby, we keep a list of non-profit groups, such as schools, nursing homes, churches, etc., who are looking for donations of TIs. Then when we know of a TI on the market, we ask the seller to consider donating it to one of the groups. Thereby, they could claim FULL CREDIT of what they originally paid on their taxes.

This program has been working very well in the user group that Jim Horn belongs to. Don would like to have someone volunteer in our group to start up this program and see it through. If you are interested, contact Don Jones.

-----The June meeting will be our annual auction. We will need donations from our members. If you have any equipment, hardware (working or not working), software or publications which you are in no need of any longer, please consider donating these items to our auction. Thisway people in need of them may purchase them. And by all means, please attend the June "auction" meeting for a good show given by "The Madman" and "The Psychologist".

-----As you know, at this new meeting place in Hillside, Ill. we need to pay $60 each month to meet here. Therefore, we have a donation bucket at the door. At our last meeting we had $64 in donations. The extra $4 will be put asside for a month when we come up short. Thank you to all attending members for your donations.

-----There was a discussion as to whether we should sell the library to non-members and also if we should advertise it. The policy and the rules of the group right now are that we

do not sell the library to anyone that is not a member. After discussion, the motion on the floor was that we will not take on the job of selling and advertising to non-members until we have people to research and man the program. We will set this idea aside until then. However, the policy has been changed to not advertising the library for sale, but we will sell to non-members if they submit an order. In other words, we will not decline their request, although we are not advertising it. The motion was voted and passed and the policy change was voted and passed.

-----As of today, Chuck Levitt had sent out 176 Hardware Manuals since January 28, 1989. During the Faire in November of 1989, we sold 30 Hardware Manuals. Nick Iacovellie was sending out Manuals before Chuck took on the job.

-----Don Jones has proposed to have our group's name put in the listing of the Computer Shopper user group list. He is also suggesting that maybe at a later point we should put an ad in Computer Shopper telling TI users we will support them. Alan Izzo had volunteered to contact Computer Shopper to list our group and also our bulletin board number.

-----There was a discussion on whether we would like to put our newsletter up on Compuserve. It was decided that it would not be a good idea to put our total newsletter up, but more or less it would be a reasonable idea to put up one or two articles, with permission from the authors, as samples of our newsletter.

-----The Membership Chairman, James Brooks, gave a report. We now have 400 members. Last months meeting brought in two new members. All our membership files and mailings are up to date.

-----The Events Chairman, Hank Ellerman, gave a run down of things to come. Today's meeting was demonstrations of the winning programs of the Programing contest. Also for today's meeting will be Danny Goldstein's robot demonstration.

We will need a new volunteer to work on the programing contest for next May. The volunteer should start advertising in the newsletter and bulletin board for the programing contest in January, get the programs in by April, review the programs so they can be judged, and present the winners at the May meeting. Later during the discussion, Tony Zlotorzynski had volunteered to handle the programing contest for 1990.

The programs that were submitted will make up two disks that will be put in the library for all members to purchase after the May meeting.

Sam Pincus is starting to collect things for the annual

auction which will be held at the June meeting.

Hal Shanafield will be organizing a picnic for the group this summer. It will be held in Evanston at the North East Park, which is right on the lake, on Sunday July 2nd. There will be a playground for the children, a pavilion to cook and eat in. There is a beach, which will require a $2 fee and there is also a little museum. There will be room for a volley ball game and soft ball game. There is a $50 fee for using the park and holding the area. It is two blocks away from the el station in Evanston, three blocks away from the bus stop, five minute ride from I-294. It was decided that the group will provide hot dogs, brats, ketchup and things, and some beverage (no alcohal is allowed in the park), and that everyone that attends should bring some other food for a pot luck picnic. It was also decided to cover the cost of food and site fee, we would charge $2 a member or $3 per family. The motion for the picnic and the price of it was voted and passed. Please let Hal know that you will be attending through the bulletin board, P.O. Box, or in person at the June meeting.

-----The bulletin board is up and running. There has been 20 to 25 calls per day. If the bulletin board crashes, Mike Maksimik has his mother trained to put it back up again, even though she knows nothing about computers. One problem with the board crashing at first was that the cat would walk on it. That problem has been solved with a laundry basket over the console. (Mom's always know how to "make things better". Way to go, Mom!!!)

The bulletin board program is put together in part assembly language and part basic language. Mike is, at this point, still currently writing a program for the board which will make it faster and more efficient. He may be getting the hard drive for the board after todays meeting.

-----Sandy Bartels then gave a Faire report. The first mailing to last year's exhibitors will be going out the week of May 14th. By June 15th we will have the second mailing going out to all other vendors. If anyone knows of a new TI company or distributor, please send in their name and address to Sandy through the P.O. Box or the bulletin board, so we can send them a mailing about the faire.

Sandy is still in need of people to work as Chairman on the Faire. She needs a Raffle Chairman, Breakdown Chairman, and Bulletin Chairman. If you would like to help with the Faire, please contact Sandy.

It was voted and passed that Sandy would be given a $500 contingency fund for expenses on the faire so she would not have to keep asking for money.

There was then a discussion as to whether the group's table at the faire should sell more than just T-shirts and pencels, which are not really a good item anymore. The discussion was that if we should go out and acquire items, like things to build your TI, and sell that at our group's table. There was a motion that we authorize a maximum of $200 to Sandy and Sam Pincus in case they find something that the group could sell and make a small profit on. The motion was voted and passed.

-----Ernie Pergrem, our Educational Chairman, gave a report. He is working on putting together an educational library. He is proposing that we advertise this to schools and he would like to know about a ruling on having the educational library available to all teachers and educators without them being a member. After a duscussion, the motion was that we sell programs in the educational program library to the education community at normal price without requiring them to be a member of the group. This motion was voted and passed. Ernie also has permission to take any educational programs from our main library and put them in the educational library.

-----Bob Demeter was working with Delphi to have our group have a TI section on Delphi. He has been overloaded with work and has passed that job over to Ernie. Ernie stated that he goes on Delphi a lot and he will volunteer to take on the responsibility of taking care of our section on the Delphi board.

-----We will book the hall at Hillside for the second Saturday in September and also for the first Saturdays in October and December. The November meeting will be replaced, as usual, by the Faire which will be held the first Saturday at the Holliday Inn in Rolling Meadows.

The Executive meeting was adjourned at 1:15pm. The General Membership Meeting was called to order at 1:30pm. All the above was mentioned.

The demonstrations were given by the winners of the programming contest. First place was Multiple Choice Trivia Game by Carl Schwerin, who won $100. Second place was Oscar Bretana with PRBUTILII winning $75. Third place was Charles Kirkwood with German winning $50. Forth place was Carl Martikean with Stock and Options Model winning $50. Fifth place was Danny goldstein with Power Game winning $25.

Then Danny Goldstein, the son of Carol (previous Newsletter Editor) and Butch (previous Bulletin Board Sysop), gave a demonstration of his robot.

The meeting was adjourned at 3:00pm.

Submitted by: Marcy Brun, Secretary

MEMBERSHIP NEWS AND VIEWS

by James Brooks

This past meeting was well attended by about 75 members. I think that the New Meeting Place has begun to attract new attending members.

There are two levels, the meeting on the upper level while the vendors set up their ware's on the lower level.

There was a ROBOT DEMONSTRATION. Then the contest winners demonstrated their prize winning programs. All of the programs will be in the Library in the near future as they will be freeware or fairware. One that I look foreward to getting is the FRBUTIL by Oscar Bretana. It will enhance the users of FRBASE to greater utilization than has been available before.

There had been a drop in the membership (which is mainly the out of town and overseas members) but we have been getting a couple of New Members since the last two meetings. Many of the members have renewed for another year and we thank you for a continuing Club. We hope more members will attend at the New Place.

There are many things going in the coming months. We've planned an Auction for the June 3rd meeting which will be the last meeting until September. There is a picnic planned for July 2 at an Evanston,IL beach which we hope to enjoy. More details elsewhere and on the Group BBS at (312)862-0182. You are encouraged to call and make use of this board. Also, the #1 supporter of the Groups board and other activities are on the Chicago Connection at (312)453-7831 located in Norrige,IL. Another supporter is now Chicago-South, located on the Chicago's South Side at (312)651-7252.
But don't forget the Group's owned and operated BBS where you can get most information directly concerning the Chicago TI Users Group. The board is located in Calumet City,IL (just south of the city) at (312)862-0182.

As of this date, all renewals should be up to date (if not, let me hear from you soon) and back on the regular mailing list.

Well that about covers it for this month so I hope to see as many as can make it to the next meeting, June 3,1989. Since we are meeting at the American Legion Hall, there is an incurred expense of $60.00 per meeting. We are asking those that attend to give a donation of $1.00 to help cover the added expense. At the first meeting, we made $4.00 over to be applied to this last meeting where we collected only $54 and we thank all that have donated at these last two meetings and all of those that will at the future meetings.

The library has been turned over to a new volunteer, Lionel Bordelon, who along with his wife made a good showing of sales at the meeting. With that off of Bob Demeter, he may bring out an even greater Newsletter than the fine one he

is putting out presently. Keep up the good work Bob and good luck Lionel in your new JOB.

See you at the meeting June 3,1989 at 1:00 PM at the American Legion Hall in Hillside, 4149 Butterfield Road.

Also, local Chicago Area Members (outside of Chicago,please write) wishing to change their address or need membership information, may call my AFTERHOURS BBS at (312)651-7252 and leave a message "to the SYSOP" as to what you need as for "Change of Address or Missed Newsletter".

CONTEST WINNERS! -Dave Wakely Sam Pincus

We had our doubts about whether we would be able to hold a programming contest this year, but our thanks go out to the 12 different group members who contributed a total of 15 entries this year. Without further ado, the winners are:

1st - $100 - Multiple Choice Trivia #22
2nd - $ 75 - FRBUTILII #327
3rd - $ 50 - German #746
4th - $ 50 - Stock Option Models #33
5th - $ 25 - Power Game #205

Comments: 1) MC Trivia is an outstanding example of multiple choice game programming. Screen layout is intelligent and attractive, instructions (included) are complete, and the game allows the user to add his or her own trivia data bases to the program. You like trivia? Get this game. 2) If you want to talk usefulness, FRBUTILII has it. Anyone who is using FR Base will want this program. 3) This program WILL teach you German vocabulary, and will even demonstrate how to pronounce German, since it includes (but does not require) speech IN GERMAN! 4) Very good, straightforward analysis of the market, mostly consisting of various stock option indices. 5) Text only adventure game, buy weapons, go to the forest, kill various beings before they kill you. Yes, its been done before, but this one's pretty good.

Thanks again to all who entered. As usual, the choices weren't easy. Several people sent in an extra disk to comply with the contest rules once they received them. Once we thought about it, it occured to us that anyone could have just sent a program into the Library and received programs in exchange. We are recommending to the Librarian that all contest entries be reimbursed at double the usual number of disks in return. When the Librarian fills your order, you will get your original disk back. Will there be another contest next year? As usual, that will be up to the members.

The Making of a Portable Part 3

By Jan Janowski

Here I sit looking blankly at a blank board that is looking blankly back at me. Me and my big ideas! It is now beginning to dawn on me the size of this project! I have never even run a ramdisk, and now I am building one! I also need 32K memory expansion on this card and I want it to take up as little space as possible. I have to build the 32K and test it before I can build the ramdisk. But the ramdisk must be laid out so I know how much space the 32K memory mod will take on the board. I solved this problem of "which came first, the chicken or the egg" by making a photostat of the expansion board. I made cutouts of the IC's and pushed them around the paper until it looked right. But, even then I had a problem. The 32K memory expansion, which was to be built and tested first, was not taking up a small enough space. I could not layout the chips for the ramdisk until I knew how much space the 32K was going to take. The 32K memory had to be built first and not unduly disrupt the wiring flow on the ramdisk. Boy was I getting a headache!

Finally I just gave up trying to layout a design of both. Using a Proto-board, I worked on the 32K memory board exclusively. I worked on getting the size of the circuitry as small as possible. I wonder how many of you bought the TI hardware modification manual that the Users Group was selling? Let me tell you, if you are into hardware mods, it is worth its weight in GOLD! In there is a schematic and board layout for 32K memory upgrade using just one chip. I used that as a basis from which to start. From what I see in this mod, it can be done using one chip, one transistor, eight diodes, and 4 resistors. The space taken up by this ends up being 2.75" by 1.75". In the few days I spent moving things around trying this and that, I ended up eliminatng the transistor and one resistor. The board space I am using is 1.5" by .75" (only 25% as much space). Compare that against the space taken up by a 28 pin IC socket! I was able to eliminate the transistor inverter and pullup resistor by picking up one more signal from the computer board, (Not DBIN) from U508 pin 9 rather than using (DBIN) from the grom socket. By doing so, I eliminated the need for the transistor, and pullup resistor. By moving the diodes around carefully, I was able to install all the circuitry UNDERNEATH the IC socket! With this definate sizing of the 32K memory upgrade, it was then possible to layout the ramdisk correctly because I knew how much space to allocate for the 32K memory mod. With the ramdisk and 32K laid out, there was still 40% of the board space available!

Then the wiring was started on the Expansion Board. It had been decided prior to the start of the wiring that if I didn't develope some type of wiring scheme, I would go crazy

trying to find a broken wire once things were completed. Can you imagine hundreds of wires all of the same color tightly wired on a board, and one end of one wire comes off? (My headache is returning). So, I decided on a color code to at least bring my confusion down a bit. For ground, I used BLACK wire. For +5v I used RED wire. For the data buss wiring I used BLUE wire. For the address buss I used YELLOW wire. And for wiring not of the above types, I used WHITE wire. THIS ONE BIT OF FORETHOUGHT HAS SAVED ME UNTOLD HOURS OF FRUSTRATION!!!

So I started in! By the way, I didn't mention it until now, but I used a rather unconventional way of wiring this all together. I did not have enough room for wire wrap sockets, so I used standard IC sockets, and I point to point soldered each wire! That is a LOT OF WORK! I could not see any other way of rapidly making changes. A printed circuit board is out of the question. Not only do I not make PC boards very well, they do not lend themselves well to modification. I limited myself to 45 min a day soldering the wires. With each wire within .1" from the next, I used magnifying lenses, glasses, anything that would help. Even so, I ended up finding 3 errors in my wiring on completion.

I did uncover one signal that occurs in the expansion box, that does not occur inside the console. You will never find the equivalent of pin 11 of the expansion board, (Not RDBEN), because this is a unique signal to the expansion box. What this signal does is as follows: Lets say a ramdisk inside the expansion box wants to send some data to the computer. The ramdisk puts a low on this pin 11, which disables any other card in the expansion box from outputting data, and simultaneously enables the output data tranceiver on its own board. Here is what I mean by enable the data tranceiver. The data buss, unlike the address buss, sends data in both directions, to, and from the computer. Traneivers both send and receive, but it cannot be done simultaneously. Picture a traffic cop keeping the two-way traffic from colliding on a one lane street. That is exactly what happens. (DBIN) enables the input side (data from computer) and the logic that creates (Not RDBEN) enables the output side (date to computer). My problem was that there is no (Not RDBEN) in the console, so, though the ramdisk would surely work inside the console, would it work in conjunction with the expansion box? It turns out that it does, and the (Not RDBEN) signal can be disregarded in the console. As long as there are not two devices inside the console that use this signal. If there is, you have to use them. My this paragraph was thick, wasn't it? It gets thicker.... Remember pin 11? Well, lets follow it to the console. That pin (Not RDBEN) goes to the expansion card where it is buffered, renamed (Not RDBENA.A) which does the exact same thing it did before, and passed directly on down the black cable to the plug at the right side of the TI. Inside this black connector, there is more

electronics, and this signal (Not RDBENA.A) becomes the enable for the data buss tranceiver to the TI console. Then, and only then, will data get inside the console. You can imagine my concern that two separate data buss enables may cause data collisions, but they haven't. So, I continued on, and on, and on with the wiring. I stopped after the ground buss wiring was installed. I put it all together and verified it still works. I took it back apart. I added the +5v wiring and tested it again. I took it apart and added 32K memory expansion. Put it together and tested. This went on, and on, and on. I finally got to the point where the 32K memory was functional. Once I got that far, I was able to use that memory to run other tests. One thing led to another. Now I was beginning to see some results in my work!

End of installment #3

The Making of a Portable

Installment 6
By Jan Janowski

OK, here I am at Don Jones's TI yearly get together. I am asked questions about the "Portable". I'm being nice about it, and explaining that I am "stuck", and need help. I have been asked over and over, "how close are you to success?" and the answer is "VERY CLOSE!".

Now it is the day after, December 31. I am sitting in front of the "Portable", leaving a message looking for a TI disk controller card that I can buy. I want to dis-assemble it to make a fake disk controller card that I can plug into the console. I want to fool the console into thinking that there IS a disk contoller card so that the "Portable" will overcome its last hurdle. I have tried so many different approaches, and I really do not want to rely on others. If the others do not come through, I will be sitting in that corner that I commented about months ago.

Then it hit me--WHY DON'T I LOOK AT MY MYARC DISK CONTROLLER. It might be more compact than the TI disk controller, and be easier to implement. (Remember, I was trying to implement a disk controller card, without implementing it!) I looked inside the card, and compared it to the schematics of the TI disk controler card. I discovered that the MYARC card was much more compact! Maybe it could help me! I removed all socketed IC's except for the PROM. I re-inserted the card,

without connecting it to the disk drives. (Remember, I had much earlier tried the disk controller card without the disks, and found out it would work.) I just went one step further. I removed chips on the DSDD board to find out how little of it would still run the ramdisk successfully.

The results were gratifying. I found I could remove the Western Digital chip, and the memory chip. This effectively disconnected the DSDD operating program from the disk drive controller chip. The TI still loaded the DSR, and the ramdisk worked! I couldn't believe my eyes! It was working! All I had to do was to re-connect this as a plug into the I/O port, and then I could very possibly have the "Dummy Plug" that I had thought about. Even if no one comes up with a fix for me. I was elated! I was now beginning to really feel the emotional highs and lows of this project, in that I was beginning to see the end of this problem again... I decided to use my DSDD controller card as an experiment to see if I could run a disk controller stand alone.

This means that I would be really doing an experiment to see if I could duplicate the Myarc DSDD controller card without a disk drive. I would implement this so that I could fool the computer on its power up to think that it had a disk controller at CRU 1100 on power-up. It would load what I found in VDP Memeory (see last article). At this point I realized how alone I was with this project. And, how much expense I would lose if I was unsuccessful in coming to a successful conclusion to this project.

I made the decision..... GO FOR IT!

My Myarc disk controller will be sacrificed for the chance that I would have a successful conclusion to my "Portable" project... I was committed!!!!
I started mapping my attack! I now knew that if I was not careful, I would loose more than a $20.00 TI computer!

So I started in. The Myarc DSDD card was much more efficient in its use of chips. Myarc duplicated with 3 or 4 chips what TI did with 7 to 9. Myarc combined a more efficient layout and a more thorough implimentation of the PAL on the board. You say, "What's a PAL?"

A PAL is not only a good friend, but a Programmable Array Logic chip that is of as great or greater importance than that of Proms (Programmable Read Only Memory). PALS can be explained using a piece of graphics paper with both horizontal and vertical lines on it, lets say 8 or more per inch. In the center of the paper, you would draw 6 AND gates, each with 12 horizontal lines from the paper as inputs. So you have lots of inputs, and only 6 outputs (one from each AND gate output. Now look at the vertical lines crossing each of the inputs. Imagine that you could

disconnect some of the horizontal lines from the input of the AND gate, and short others, so that one input line was connected to multiple AND gates! Furthermore, imagine that the outputs of each AND gate can feed back to the input of each of the AND gate inputs, including itself. These outputs can also be programmed to gang multiple lines together. Just think of the possible combinations! For a equivalent example of what Myarc is doing, look at the schematic of a Horizon Ramdisk. It would be possible to replace U19, U3, U18, U20, and U10 with one 20 pin PAL. A 12L6 just like Myarc did on their DSDD disk controller! (The same chip would not work, it would have to be programmed.) By the way, the name of the PAL, 12L6, gives an insight as to what it does inside of it. 12L6 has 6 gates, each with a maximum of 12 active low inputs, and a maximum of 6 outputs. Depending on how the part is programmed, you could use any or all of the device. (In the Horizon ramdisk example, you would not have the flexibility of the selectable CRU address, but think of the space, component, $, and power savings!) By the way, this is why the Myarc Ramdisk cannot be moved from 1000 CRU, because it is burned into a PAL that way! PALS are very powerful, but difficult to develope in that they have so many paths. It is possible to design yourself into a corner easily. I cannot design PALS, but if I could, I could really eliminate a lot of components from the design, in fact, at work I have a few pieces of equipment that are primarily designed around PALS. I will tell you, they are a real pain to troubleshoot when they break. So much is happening inside the device, and each device can be programmed thousands of ways. It is very complicated to diagnose a problem with a PAL. I know I am off the beaten track again, but I thought you'd like to know something about this very complex, very versitile device. In this case, the Myarc PAL is being used as an Address decoder (CRU address), and also as decoding for the logic for timing the enable back to the data buss. (Remember the NOT MEMEN?) This PAL is doing that, too! It is also providing a command for the floppy disk chip, but I am not interested in that. All I need is to load that DSR into VDP Ram! A very powerful device indeed!

No sooner than I had totally disassembled the disk controller card, then I received an answer from Lou Phillips of Myarc on this. It is repeated in part here:
"Jan, the problem is one of memory utilization. In other words, certain programs assume that VDP RAM and pointers to it are set accordingly. Some software uses that info and performs accordingly. Others assume a certain setting. The setting is performed by the FDC and when it is powered up. One thing you could do is have the ROM for your ram disk place a >37d7 in location >8370 of CPU RAM and >AA, >3F, >FF, >11, >03, in VDP RAM starting at location >37D8. That should do it."

End installment 6

THE PRESIDENT SPEAKS...

I am happy to again be able to say that I am again without any complaints or problems. If there is anything that has been bothering you, relative to our group, please drop us a line so that we can address it. We definitely aren't looking for something to do, but we don't want our members to be either unhappy or dissatisfied with our group, if there is any reasonable thing that we can do to solve any legitimate complaints.

I spoke to my friend, Don Walden, the president of the Milwaukee Users' Group and the Wisconsin TI Council. He said that he will definitely be at the next meeting with his close associate, a fine programmer by the name of Jim Schroeder. They will have some more "show and tell" goodies for us. We will therefore be having a Geneve S.I.G. meeting immediately after the conclusion of our regular meeting.

If you live in the Chicago metropolitan region, please come to our new meeting place, the American Legion Hall in Hillside, Illinois. It is really a very fine facility. It is a very comfortable and pleasant environment for the meeting. Vendors set up downstairs, and the meetings take place upstairs. If you are familiar with what we had at Triton College, you will love our new facility. It is also easy to get to. Please give it a try.

Hal Shanafield is setting up a Chicago TI Users' Group picnic. It will take place in Evanston on July 2. Please attend. It will not be a meeting, rather it will be a social event where we can all relax. It will also be a good chance for the wives to come and not be worried of getting bored with a meeting on computers.

Many thanks to the people who helped make our last meeting a success. Special thanks to Sam Fincus and Dave Wakely for judging our yearly programming contest. Also, thanks to Butch and Danny Goldstein for the robot demonstration.

The June meeting will be the last one before our traditional summer break. It will also be our yearly auction. Please bring donations and plenty of money to buy, buy, BUY!!! I hope to see many of you again at the next meeting.

As usual, you have all of the blessings that I have to offer.

Respectfully submitted,
Don Jones
President
Chicago TI Users' Group

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FOUR-A/TALK

Random ramblings
about things TI.

by Bill Gaskill

May 1989

AN APOLOGY

I hate to have to admit it, but I lied. In the April issue of FOUR-A/TALK I said that the Genial Travler Diskazines would be covered this month, but so many other neat things came up that I wanted to share with you, that I have decided to put the GT material off for another month. My apologies to Barry Traver and Four-A/Talk readers.

WHAT'S HOT:

- Art Green's TI-Writer (re-write) V4.2, Texaments MICROdex for TI-Base, Asgard's Legends II and Pro Page 99, Andi Wise's User Group List, Steve Mehr's Fairware List, Mike Wright's Reference List of 99/4A commercial products and Jim Reiss' TypeWriter 99 in a module.

DISCOVERIES:

- Art Green, the Canadian assembly language wizard who wrote the Macro Assembler programs, has released V4.2 of his TI-Writer upgrade. To be real honest with you, I didn't even know that there was a V1.0! None the less, Art has done as neat a job with TIW as he did with Macro Assembler, except that the TI-Writer upgrade is better documented. Or maybe it's that I understand TI-Writer better than I do assembly language. Whatever. Art's TIWV4.2 upgrade is a FairWare offering that is available at yesterday's price of $10. A copy may be ordered from;

RAG SOFTWARE
R.A. Green
1032 Chantenay Drive
Glouchester, Ont.
Canada K1C 2K9

But wait! I'm going to tell you WHY you should send the $10 to Art and get a copy.

1. Like the Mike Ballman, Ed Jones and John Johnson TIW rewrite for the Horizon Ram Disk, Paolo Bagnaresi's BA-Writer, Tom Knight's TK-Writer and the McGovern's FunnelWeb system, the RAG version of TI-Writer has its own loader, so you don't need the TI-Writer module. The RAG

loader lists A-Editor, B-Formatter or C-Utility.

2. Unlike the Ballman, Jones and Johnson collaboration, but similar to the McGovern's FunnelWeb system, the RAG version allows you to "install" the program to your system. That means that you can configure the program with your defaults for the;

-printer name.
-screen colors.
-tab settings.
-word wrap on/off.
-line number display on/off.
-defined character set.

3. The Show Directory function shows a catalog display much like the original one in the TIW module, which is a vast improvement over the one used in the BJ and J version.

4. The RAG version has several new commands such as QQ for an immediate quit without further prompting, Ctrl comma to go to the top of the file, Ctrl period to go to the bottom of the file, a PC (printer control) command has been added that allows control codes to be sent directly to the printer without changing the line count. It also allows you to setup a printer without having to use transliterates.

5. You can also define your own underline character, boldface character, required space character and mailing list control character. Art has also added a Conditional Page break option that tells the formatter program to do a page eject if less than a certain number of lines are left on the current page.

6. Perhaps one of the neatest features is the Chain File option that allows multiple floppy disks to be used in the formatter. This means that you can have a file that is hundreds of pages long, on several floppies, and still have the file printed as a single document. The CF option causes TIW to prompt you to insert the next disk and then press <ENTER>. Once that is done, processing resumes. Wow!

7. The formatter program is faster and more compact. In fact, it is only one file in the RAG version instead of two as it is in the original TI-Writer, the BJ and J version, BA-Writer, FunnelWeb etc.

8. Loaders for Extended Basic, Mini-Memory, the original TI-Writer cartridge and the SuperCart are included.

Many other "little" nicities have been added to make the RAG SOFTWARE version of TI-Writer my word processor of choice. It loads and works marvelously from my Horizon Ram Disk, though like all other TIW clones I have, it will not catalog

my hard drive. It resists the loss of characters on word wrap better than anything I have seen to date, and it also scrolls text or windows the screen faster than anything I have seen to date, regardless of the size of the file.

I haven't mentioned much about the formatter improvements, but I will say that there are several. I also haven't mentioned the speed with with the program operates in general. Cursor speed is NOTICEABLY quicker as are block operations such as COPY and MOVE. Overall, the program is "smooth". Do yourself a favor and look into the Art Green TI-Writer V4.2. I know that you think a word processor is a word processor and all TIW clones are the same. NOT SO in this case.

NEWS:

- Andi Wise, editor for the newsletter at the Eugene, Oregon 99/4A Users Group, Box 11313 Eugene, Or. 97440, has compiled the most complete list of 99/4A Users Groups I have seen to date. There are over 500 listings in the data base, both past and present, U.S. and foreign. She really has gone to alot of effort to provide us with this much needed resource. SouthWest 99er BJ Mathis, who also has an excellent UG data base, contributed as an information source to the project. Andi compiled the data base in Mark Beck's Creative Filing System.

Not intending to compete with Andi, I have adapted her data to TI-Base so that TI-Base owners could also have access to the information, in a command file programmed environment. The TI-Base version is available in your club's library (if your club receives Four-A/Talk from me directly). Andi is asking a paltry $5.00 ShareWare fee for her file in CFS format. If you procure the TI-Base version, I ask that you also send her $5.00. Please do not send any money to me for the TI-Base version. Andi did the work and deserves the financial support for her Users Group.

- In case you haven't heard, Asgard's Chris Bobbitt is stirring things up with an offer to support the development of a prototype of the "Next Generation Computer" for the TI Community. From what I have read, it appears that he has lost faith in the Geneve or in Myarc, or has gotten tired of waiting for the Geneve to be a complete machine. It will be interesting to see what comes of it.

- Also from Asgard; I've discovered to my dismay that the first two issues of Asgard News are already out of print. I was a late subscriber and had to start my subscription at Volume 1 Number 3. Rats! If you are interested, Asgard News is available for $9.00 for four issues from;

Asgard Publishing
P.O. Box 10697
Rockville, Md. 20850

- You can expect to see a series of TI-Base tutorials in our own MICROpendium magazine shortly, that will hopefully help you to take full advantage of this marvelous piece of software. The articles will offer all new information on TI-Base, not a rehash of the tutorials that I have given to the various Users Groups in the last year.

- Texaments should be releasing MICROdex for TI-Base this month, if it is not out already. All you TI-Base owners now have a chance to see the first third-party application available for your TI-Base data manager. The MICROdex libraries are available for $14.95 for MICROdex I and $9.95 for MICROdex II or $22.95 for both. Please include $2.50 S/H. MICROdex is available from;

Texaments
53 Center Street
Patchogue, New York 11772
516-475-3480

- I have also just completed a project for Jerry Price of TexComp that produced a really nice, simple tutorial on using the Navarone Data Base Management System. The end product is a professionally printed booklet that leads you through the creation of a publications index, complete with tips on sorting, subfile creation, report definition, extended basic access to DBMS files and more. The package comes complete with a disk that contains a working data base of over 300 records and actual XB programs for merging DBMS files, counting the number of records in a file and more. TexComp can be contacted at 818-366-6631 if you are an interested Navarone DBMS owner.

- Steve Mehr has taken over the management of Dick Altman's FaireWare List that was started back in 1985 or 1986. Steve offers the list for a reasonable $2 materials fee to anyone desiring a copy. His address is;

Steve Mehr
633 Hollyburne Lane
Thousand Oaks, Ca. 91360

- Back to Asgard again, Legends II, the sequel to the original Legends game released by Asgard back in April of 1987, is now in beta testing and should be available within 2-3 weeks. Another exciting product that should debut at the Ottawa Faire is Pro Page 99 by Ed Johnson. According to Chris Bobbitt, Asgard president, Pro Page will let you compose a full 8 1/2" X 11" page at once, with up to 28 pictures of any size on the page, and they may be placed

anywhere you want. Also, both large and small type fonts for text will be supported as well as line drawing. Utilities to convert TI-Artist fonts and instances into Pro Page format will be included, with other conversion utilities planned for Picasso to Pro Page 99 format also. Wow! The newsletter editors out there ought to have a field day with this product. Of course it does column layout of text files too, as well as importing and exporting of TI-Writer DV/80 files.

- In case you haven't noticed, Jim Reiss' TypeWriter 99 is now available in the latest TRITON catalog, in cartridge form. Triton's number is 1-800-227-6900.

TI-99/4A REFERENCE LISTS:

You will recall from the March 1989 FOUR-A/TALK that I discovered Mike Wright's TI-99/4A Reference Lists while at the Fest-West in San Diego. Because I had to leave Sunday morning, and didn't get to spend the whole weekend there, I just barely noticed Mike's product in the Genial ComputerWare booth in a last minute sweep of the Fest before leaving. I bring the topic up again, after having read and re-read the lists, because I am convinced that they are the most complete, and the most professionally presented resource of their kind available to the 99/4A community. At $5.00 plus a couple of dollars to cover the cost of shipping and handling, they are a bargain. There must be hundreds of hours of research invested in them to come with the 40 plus pages of laser printed information, all of which has been verified by actual product. The list also contains the most complete and accurate description of books for the 99/4A I have seen since Barry Traver's list. If you are a 99/4A enthusiast, you WILL WANT the TI-99/4A Reference Lists by Mike Wright, 45 Centerville Drive, Salem, New Hampshire 03079. Honest!

THIS MONTH IN 4A HISTORY:

1981:

99ER Magazine publishes it first issue. It begins as a bi-monthly publication.

-CIN-DAY Users Group forms with Larry Morrow as president.

-Creative Computing reviews Extended Basic prototype.

-Bugs are found in the newly released Extended Basic module from TI (v100).

-The third issue of the British TIHOME TIdings magazine puts the TI User Group membership figure in U.S. at 6000.

1982:

Electronics and Computing magazine puts a twelve page TI-99/4 supplement in the May issue.

-TI and Control Data Corporation reach a May 6 agreement that allows Texas Instruments to secure the rights to 108 of the 500 available PLATO modules for use on the 99/4A.

1983:

Plans to introduce the TI-99/2 (a low end, 4.2K RAM competitor to the TIMEX-Sinclair computer) are cancelled after prices for the 99/4A fall to a point where they encroach upon the 99/2's target market.

-Plans to produce the ET game module and the disk-based educational series by the Minnesota Educational Computer Consortium (MECC) are cancelled.

-Cheryl Whitelaw, aka C. REGENA, begins writing the "A Woman's View" column for Enthusiast 99, the official publication of the International 99/4 Users Group.

-Forty TI-99/4A computers are used to open the Computer Discovery Center at Magic Mountain in Valencia, Cal.

1984:

Home Computer Compendium becomes MICROpendium.

-Corcomp releases the 9900 and 99000 expansion systems. A DS/DD disk controller card is offered.

-Charles Ehninger, creator of Futura Software, is profiled in the National 99er Users Group newsletter.

1985:

ADVANCED DIAGNOSTICS is released by Craig Miller.

-Navarone Industries releases its PAINT 'N PRINT program.

-CHARACTER SETS and GRAPHIC DESIGNS is released by David Rose.

1986:

In the United Kingdom, TI*MES magazine sponsors a national show in LEEDS. Among the many UK users, attendance also includes a 99er from as far away as Ottawa, Canada and another 99er from across the English channel in Holland. Dedication, huh?

-Britain Harry Pridmore introduces 4/FRONT, a TI-99 magazine on disk or cassette.

1987:

CONSOLE CALC, the first (and to date the only) spreadsheet written for the 99/4A that is totally in a cartridge, is reviewed in MICROpendium. It receives a mediocre review due to limited formula creation capabilities and faulty error handling.

1988:

Release of TI BASE data base manager announced by Texaments.

TRIVIA:

Did you know that...

-The Peripheral Expansion Box project ordered by Don Bynum, designed to do away with the cumbersome chained peripherals setup of the 99/4, was officially completed in January 1982?

-In December 1983 Louisville, Colorado 99er Jim Robinson tried to start the International 99/4A Users Group complete with a bi-monthly newsletter named 4A Forum? I never heard of it again, but that doesn't mean it didn't succeed. Has anyone else heard of it or been a member?

-AtariSoft once listed Robotron: 2084, Stargate and Super Storm in their advertisements as being available for the 99/4A? They certainly showed us a lot of support after the "bailout" by TI, but I have yet to run across those titles in a 99/4A retailer's catalog or anywhere else. Mike Wright's TI-99/4A Reference Lists don't show them either.

-Charles LaFara's International 99/4 Users Group published only seven issues of Enthusiast 99, despite being in existence from September 1980 until May 1985? The magazine issues were May, July, September and November 1983, and January, March and a May/June 1984 issue.

-While most of us are familiar with four of the product designators used with the 99/4A line of computers, TI actually had seven of them? PHA-Accessories, PHD-Diskettes, PHL-Libraries, PHM-Modules, PHP-Peripherals, PHT-Cassette tapes and PHV-Value packs.

-Bill Bies, author of the Zaxxon clone "Arcturus", also wrote a Centipede clone named "Arthropod"? Wonder what Bill is doing these days? Sure would like to see him back amongst the active 99ers.

-The hottest 99/4A joystick today is the Epyx 500XJ. TexComp's Jerry Price advises that it has the most advanced design of any joystick available. It ought to really make MunchMan turn those corners. I bought one but don't have it yet. I'll let you know.

-Cities named DANVILLE out number all other community names in the number that have 99/4A Users Groups. Yep! There is a joke out here in the west that no matter what state you go to west of the Mississippi River, you will find a body of water named Beaver Creek. It must be the same kind of thing for towns named Danville. There are four Danvilles, the Danville 99ers in Kentucky, the East Central Illinois Users Group in Illinois, the Southside 99/4A Computer UG in Virginia and the Susquehanna Valley 99ers in Pennsylvania. The next most common community name seems to be Springfield, with groups in Illinois, Missouri and Virginia.

-Aside from the Danvilles and Springfields, there are some other interesting community names where 99/4A User Groups can be found. How about Red Deer, Whitefish, Horseheads or Papatoetoe for starters?

Until next time...

FAIRE NEWS

It's time to start thinking about the FAIRE. Yes I'm here with all the information you'll need, so you can start to plan for the time off you'll need to attend the 7th annual Chicago TI Faire.

The FAIRE is being held at the same hotel as last year. For those who were not able to attend last year, the address is :

Holiday Inn, 3505 Algonquin Rd. Rolling Meadows, Il. 60008

The price of a room is $50.00. That's $5.00 lower than last year.

We will be starting the Faire with a mixer on Friday night at 8:00 pm. Admission will be $5.00 per person. There will be hors doeuvres to snack on and a cash bar for refreshments. Come and meet everyone.

At 9:00 in the morning on Saturday, the vendors will be open for business. Bring all your money. I have heard that there will be many new things for sale. The vendors will remain open until 5:00 pm. The vendors will pack up, but they will not go home yet. Dinner will be served at 7:00 pm. There are a limited number of seats, so if you want to join us for dinner please make your reservations early. The cost of the dinner this year will be $15.00 per/person.

On Sunday morning there will be a caravan of TIer's going to the Milwaukee Faire for some more fun. We are working on making this a weekend that the whole family can

enjoy. I'll have more information for everyone later on. If anyone would like more information they can call the hotline at 312 869-4304, or call Grant at 312 477-0690 between the hours of 6:00 pm and 10:00 pm. You can also call me at 312-859-3850.

If you prefer to write, please send your letter to the Chicago TI User Group PO Box 578341 Chicago, Ill. 60657. Send it to my attention (Sandy Bartels, Faire chairman).

Until the next newsletter, Fairewell.

GENEVE SUPPORT ARTICLE...

Well, howdy doody there sports fans again!

Let's start this article off with some really nice news: LEGENDS II: The Sequel has been announced as being released!!! Yes, about a month ago, I received in the mail flyer/announcement from Asgard Software. It said that this program was supposed to have been available by March 1, 1989. Well, I haven't heard of anyone else having it, so I called up my dealer and asked him to order it for me. Incidentally, if you have been keeping up with the trash that I write here, you will be well aware of the fact that I am lover of LEGENDS. It is the ONLY game that has been able to maintain my interest over more than a few evenings. It is a "dungeons & dragons" type game that is compatible with both the 4A and the Genny. I just LOVE it!!! In fact, if I couldn't use it on my Genny, I would play it on one of the three 4A's that I have in my home. It is just that good! Incidentally, this new version is for levels 16 to 30. In other words, if you haven't first played the first version of this fine game, then the sequel won't do you much good. So if you haven't played the first version, then go out and get it. And please don't pirate this game. We need to encourage the many fine programmers in our community to produce this sort of thing for us.

I was recently reading through some old issues of the "TI Forum" column, which appears monthly in the magazine, Computer Shopper. It was nice to be able to see such a favorable review of the 1987 Faire, as it was written for the January 1988 issue. What was also interesting was the following statement: "...The software developers, headed by Paul Charlton, are to be congratulated on a monumental achievement in programming. When one considers the immense resources MicroSoft had at its disposal in writing the first versions of MSDOS, and compare those to what Myarc is working with, the accomplishment assumes an even more remarkable stature. Regardless of what criticisms may remain about the Geneve, even the detractors seem to agree that the potential of the Geneve is significant..." I say all this because we

are now awaiting version 1.15 of MDOS. With version 1.14, we are able to do virtually everything that we were promised, with one significant exception: I am speaking of the ability to do all of the documented hard drive routines. As I have just received my HFDC card, I still haven't had the time to format my hard drive and get it going. (One reason is that I have to finish the writing of this article before I can play with my new toy!) I therefore can't speak with much authority relative to what Genny can or cannot do with a hard drive, but I do know that the 4A is currently able to do everything that the HFDC card is supposed to be able to do. Let me talk for a minute about what the HFDC presently can do:

With a 4A, it can control up to four disk drives. It can format and read floppy disks in SS/SD, SS/DD, DS/SD, DS/DD, and "quad" density. (Quad density gives the user 2880 sectors of storage space.) If, in addition to the HFDC card, you have another FDC card in the box, you can have an additional four drives active in your system. This means that if you are using a Myarc FDC card, you can have up to eight floppy drives active in your system. In addition to this, you can also have up to three hard disk drives attached to your system, each with a maximum storage space of 134 megs! I defy anyone to find for me a comparable peripheral for any computer for the same price. Yes, sports fans, we have a pretty powerful device with the Myarc HFDC card. But the best thing about it is the fact that Myarc chose to develop the hardware in front of the software. In other words, there is a hardware potential that the present software is unable to take advantage of. To be specific, the Myarc HFDC card will also support a 1.44 meg. floppy disk, with the change of the EPROM and the disk manager software. This means that Myarc has built the potential for dealing with the 1.44 meg. floppy disk into its hardware. It is just a matter of time before they release the necessary software and EPROM, but at least this is something that we can look forward to for the future.

When version 1.15 comes out, Genny will also be able to perform all of these same functions in dos. Presently, most functions are able to be performed in the GPL mode using the HFDC card disk manager, MDMV. I might also mention that the HFDC card is presently unable to do any "floppy" disk drive routines with a Genny, but all of these routines are presently available with a 4A. The reason for this difference is that MDOS verson 1.14 lacks the necessary DSR's to control a "floppy" disk drive from a HFDC. How is the problem gotten around? By keeping a standard TI disk controller card in your p-box, in order to control your "floppy" drives. Once the hard drive version of MDOS version 1.15 is released, you will be able to dispense with the services of any other disk controller card, unless for some arcane reason you need to have EIGHT floppy disk drives

functional! Hopefully, the long awaited version 1.15 will be released soon. There is presently a "beta" version of dos on some bulleting boards. This version is unable to do many of the things that our version 1.14 is able to do, but it is able to do some of the things that version 1.14 is not able to do. I have not tried it out, as I would prefer to wait until version 1.15 is out. I don't want to give up any of the features that I have with version 1.14. I also believe that this "beta" version does have the floppy disk DSR's written in.

Let us look at what we have created in the AUTOEXEC file that I started creating in last month's issue of this newsletter:

```
TI MODE
GPL
RAMDISK 120
```

The next command that I want to use is the LASTDRIVE command. This is a useful command in that it specifies the highest drive letter that DOS recognizes as valid. If your AUTOEXEC file does not contain a LASTDRIVE command, the highest value DOS recognizes is G. For my purposes, I have entered this command in my AUTOEXEC file in the following way:

```
LASTDRIVE = L
```

I have chosen to do this as I my configuration is such that floppy drives 1-4 are drives A-D. My built in RAM disk is assigned the letter E. My Horizon RAM disk is assigned the letter F. My hard drive will be assigned the letter G. And if I ever get another HRD or more hard drives, they will respectively be drives H-L. But for the present time, let us use the ASSIGN command to assign the names that I want to presently use to the drives that I now have present:

```
ASSIGN E=DSK5:
ASSIGN F=DSK6:
ASSIGN G=hdS1:
```

According to the above commands, drive E, my built in RAM disk will be logical drive #5. Drive F, my HRD, will be logical drive #6. Drive G will be my hard drive. I will be continuing to build my AUTOEXEC file in next month's installment of this article.

Well, I think that I am going to have to stop now. I hope to have something interesting fo next months article. Incidentally,

HAPPY BIRTHDAY, GENNY BABY!!!

How many of you remembered that Genny is now two years old??? A shame on you for not remembering a lady's birthday.

Until next time, happy computing!!!

THE MAKING OF A PORTABLE

part 7

By Jan Janowski

Like I have said over and over, this project, the making of a Portable, has had its ups and downs. Just about the time I felt that everything was going right, I found another obstical in front of me. I am fortunate in that the TI community has been helpful to me in my time of need. I have certainly been in need during this project. Let me set the stage as to where I was as of March 1, 1989. I had succeeded in putting a Ramdisk inside a console. But, in doing so, ran right smack into the TI operating system. I was trying to do something totally illegal, from TI's standpoint. The TI does not have a DOS (a software based operating sytem). The way the TI works when you add an extra option to it is simple-- the added option itself has the built-in smarts to re-configure the TI operating system. So, the system itself is not excessively smart. It is the options added to the TI that have the "brains". It re-configures the computer and its memory for proper operation with the added option. That is why you loose memory when you add a disk system (try it yourself-- in EXT BASIC type SIZE with and without a disk system.... The disk controller re-configures the computer available memory to a smaller amount. And , creates the device service routine in the process. As the owners of a Ramdisk knows, there is an extra 8K ram on the card that is used for the operating system. I am over-simplifying it a bit, but it is this 8K of memory that knows what to do to the available memory of the TI on powerup.

On powerup, the CRU addresses starting at 1000 are polled. If anything is found there, it executes the contents of RAM (be it static or From). So on power up, the TI re-configures itself!

My basic problem with this is that the disk controller is not there in portable operation. The ramdisk alters the VDP Ram so that on power up the Menu program is executed, and that is about it. It assumed that the disk controller is there. It isn't on the portable. So what I was doing was entirely illegal.

Barry Boone left me a message on the board. I eventually called him. He had been having problems simular to my portable problem, but for a different reason. He had modified his ROS to load at 37D7 at location >8370. This is the pointer to tell the TI what the highest available VDP ram that is available for the programs. (remember, the highest VDP Ram is really 3FFF and it is decremented for a disk DSR.)

Barry is a software fella. I am a hardware fella. I have the greatest respect for the Barry Boone's and Jim Derk's of the TI community. They can look at a problem and re-design the software to work around it. I can do some hardware re-designing, but I am exceptionally weak in the Software area. So whereas I knew where and for the most part what was wrong, I hadn't the foggiest Idea of how to fix it with software. That is why I was concentrating on a "dummy Plug" to emulate a disk drive. In the long run, I am glad it didn't work, I would need that I/O port later....

So Barry sent me a modified ROS, and wouldn't you know it, it worked!

I asked Barry if he could explain what he had done, and his explaination is as follows:

The modifications made to P-ROS were simple sector edits, which accomplished the following: On powerup, set the value at >8370 and initialize the disk buffers. Since this mod was made without source code, the only "drawback" is that the powerup feature must be turned on... (definitely not a problem if you use MENU) The only other incompatibility problem will be with those programs that do a CALL FILES or equivalent to repartition the disk buffers, since the ROS does not contain those routines.

With this major stumbling block out of the way, I proceeded onward to install the parallel port inside the console. After the installation, everything seemed to be just fine, but then still another stumbling block appeared! The parallel port worked fine as a portable. But, when I re-connected the Expansion box to the portable, and powered up the system, the disk controller card and the parallel port were fighting for control of the computer. Neither was winning! That parallel port worked fine in the portable when dis-connected from the Expansion box. So, it was decided that the parallel port would be a device that would plug into the I/O slot on the right of the console. It would be used as a portable parallel port. This worked fine. When the Exapansion box was needed, the parallel port was disconnected from the I/O slot, and the Expansion box attached. That was a workable solution. By the way, Jim Derk is writing the code for the Parallel port and we here in Chicagoland will create our own custom parallel ports.

At that time, I decided that good solid documentation would be necessary for the schematic of the portable. I had a lot of notes on many pieces of paper. I had no idea how to consolidate this information in such a form as to be extremely clear for all. I decided to invest in having the schematic of the portable done on a CAD workstation. Some of you received the results at the April Chicago Users Group meeting. If you did not get a copy of this information,

don't fret! Wait until you finish the article!

So I spent some money for the TI community. I had the CAD drawing made for the Portable schematic. Copies of this schematic were sent to all interested parties who assisted me with this project. Some of the people wrote back. One of whom, John Johnson, the author of MENU and the ROS, wrote back sending me some beta software for MENU. He included information that release 7.4 would be written for both standard TI systems as well as PORTABLE TI'S!

When it came time for the Demo at the April User's Group, I was; at first, unsure how to explain all the stumbling blocks that I fell into on this project. So, in order to give everyone the most information, my demo went a bit long. But, I believe that I withheld ablsoutely nothing on the making of a battery operated TI PORTABLE. I have succeeded in doing what I started out to do. Furthermore, I have made some very good friends in the process. All of the people who assisted me with this project have had the same attitude about this: MAKE THE INFORMATION AVAILABLE TO ALL. We as a group are forever assisting one another, and we form a closer organization by this mutual assistance. I would like to personally thank the following people for their assistance and suggestions to me for making this project a reality:

JIM MCCULLOCH, JIM DERK, HANK ELLERMAN, DON JONES, DON WALDON, BUDD MILLS, RON WALTERS, GEORGE BOWMAN, "FROGGMAN MIKE", LOU PHILLIPS, BARRY BOONE, JOHN JOHNSON These names are entered chronologically, and reflect the time period that these people assisted. Obviously, many people helped over, and over. My thanks go out to each and every one of you! This project is not Jan Janowski's Portable project, it is THE TI COMMUNITY'S PORTABLE PROJECT!!!!!!!!
Thanks again all!!

If you would want a copy of all these articles, along with photostats of the schmatics used (entire portable ramdisk project and 8 bank supercart project) as well as a copy of all the 7 "Making of a Portable" articles, along with the P-ROS, Beta Menu software, send a formatted disk, and 8 x 11 envelope along with return postage to:

Jan Janowski
TI PORTABLE INFO
8536 N. Keystone
Skokie, Ill 60076

I will make copies, and return it to you. I LOVE MY TI !

EDITOR'S NOTES....

While it's on my mind, let me answer a question first. Someone asked me at the meeting what John E. Taylor's address was. Here it is: 2170 Estaline Dr. Florence, Al. 35630. At least this is the last known address I have for him.

Thanks to all the programmers for showing up and demoing their winning programs. Thanks again go to Danny Goldstein for demoing his Robot. I think the meetings are getting better all the time. I thoroughly ENJOYED myself.

Please plan to attend the June meeting at the Legion Hall. This meeting will evolve around our annual auction. This is a great way to pick up on some nice hardware and software. It also helps the group. If you have something you'd like to donate, call the group's hotline a.s.a.p. (312 869-4304) Let us know what you have and if it works or not. Get it to us as soon as you can. We'd like to be able to check it out to determine a good selling price. Anywho, come check it out. There may be something there you've been looking for. I've seen a couple of things I'll be bidding on.

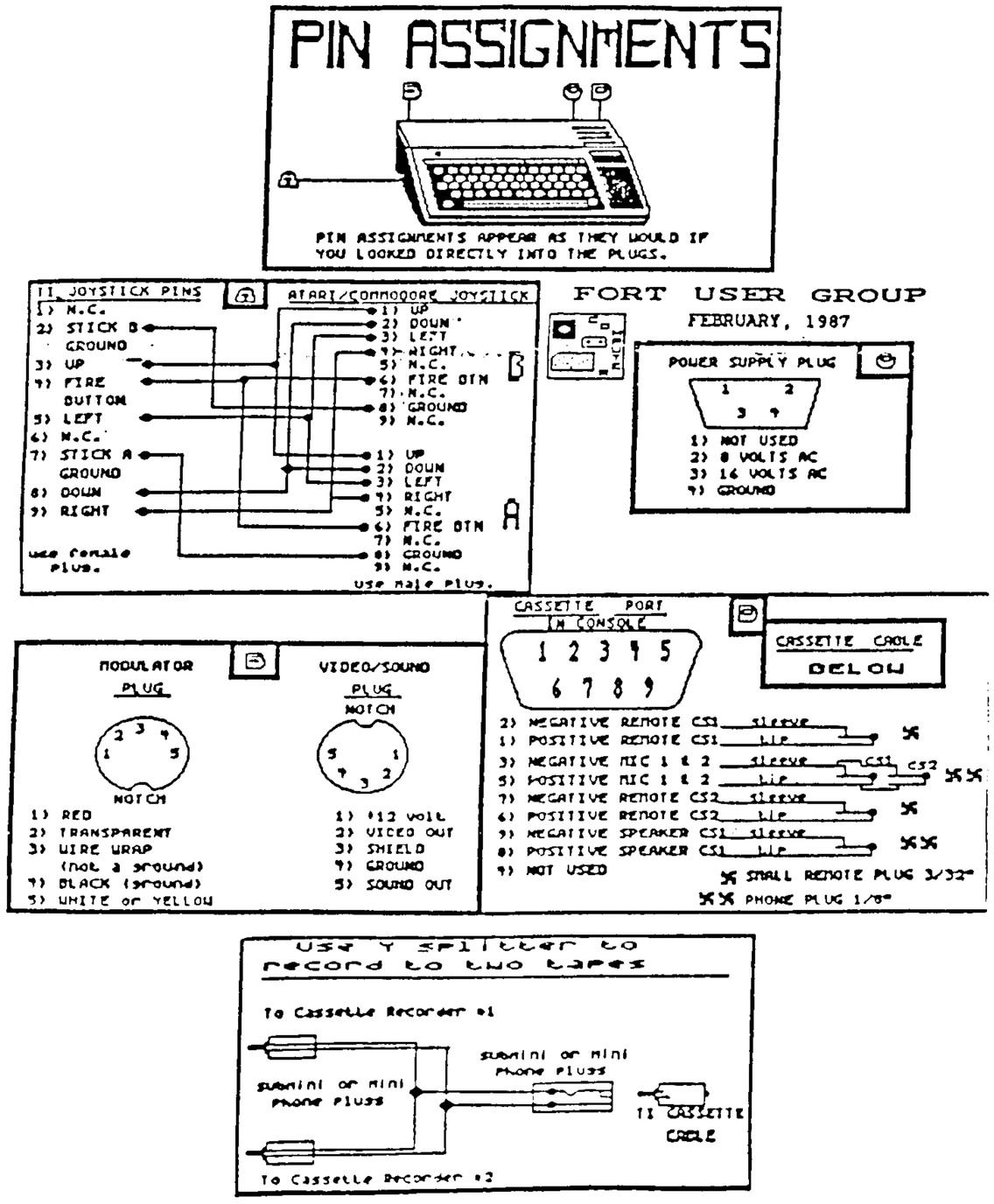
Nick Iacovelli wants to make the meetings easier to hear. If you are having trouble hearing what's being said at the meetings, bring an FM radio. Nick has built a transmitter that can pick up a normal voice 20 feet away. It transmits on the FM band and is very clear. So, if you're tired of saying, "What'd he say?", bring a radio.

Oh yeah, before I forget, I want to apologize to everyone. I was very surprised to get a message from Jan that I had omitted part 3 of his portable article. I just knew I formatted parts 2 and 3 to run together. So, I ran parts 4 and 5. After being told the same by 2 other people, I decided I'd better do it this month. I started reading part 3 and it sounded very familuar. I checked my hard drive. Sure enough, it was there in the APRIL directory. It was all formatted and ready to go. Then I found the layout sheet I use to figure where each article goes. Guess who's article Jan's was to share pages with? Don Jones' Presidents article. We all know what happened to it. I forgot to print it. So went Jan's article. I'm sorry I messed up the sequence. You can all beat me with a wet noddle June 3rd.

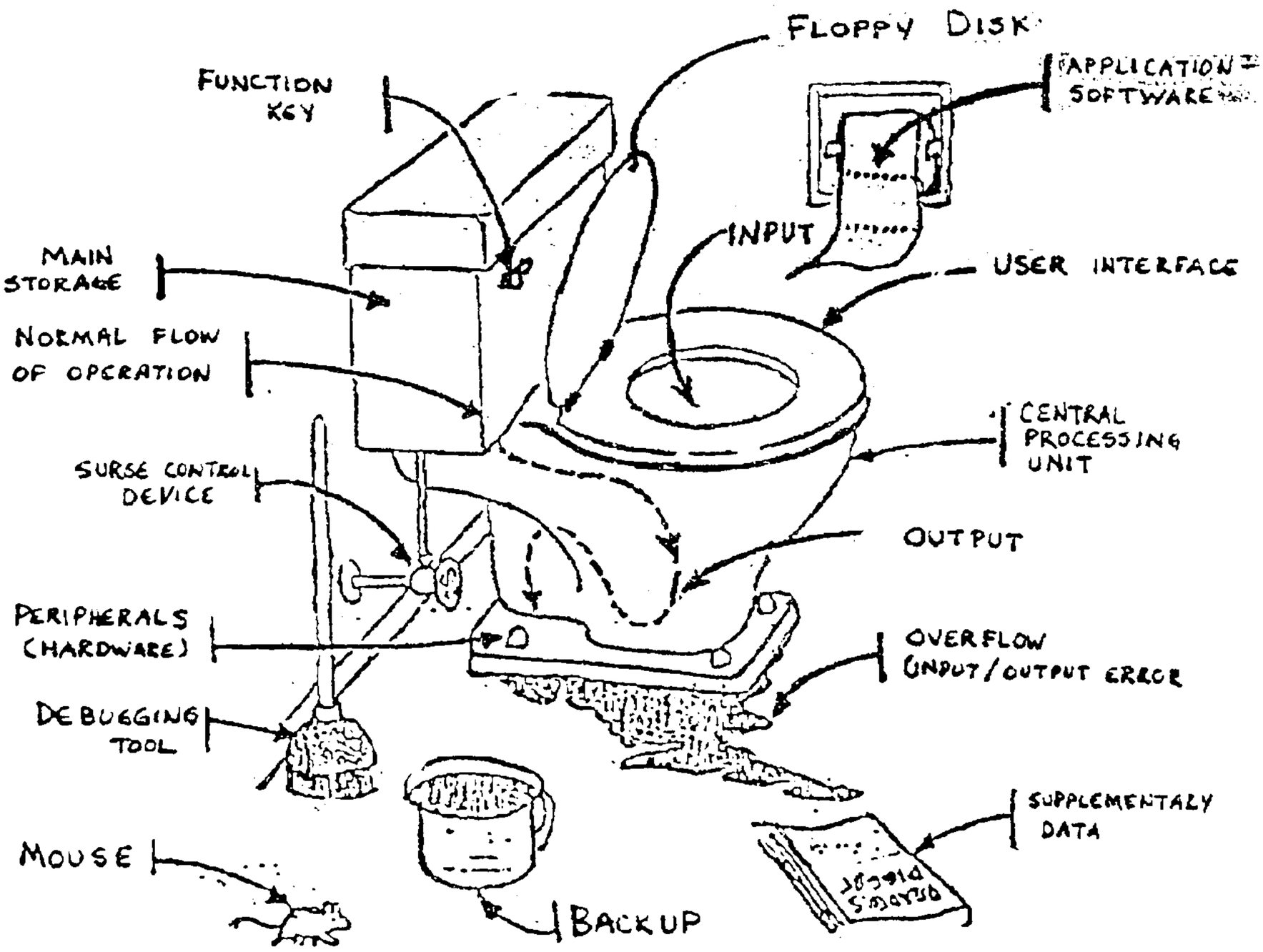
Check out the article about the picnic. We had one a few years ago. I heard it went over pretty well. Plan to spend 1 day of your Independence weekend with your TI buddies and families. Come to the picnic Sun. July 2.

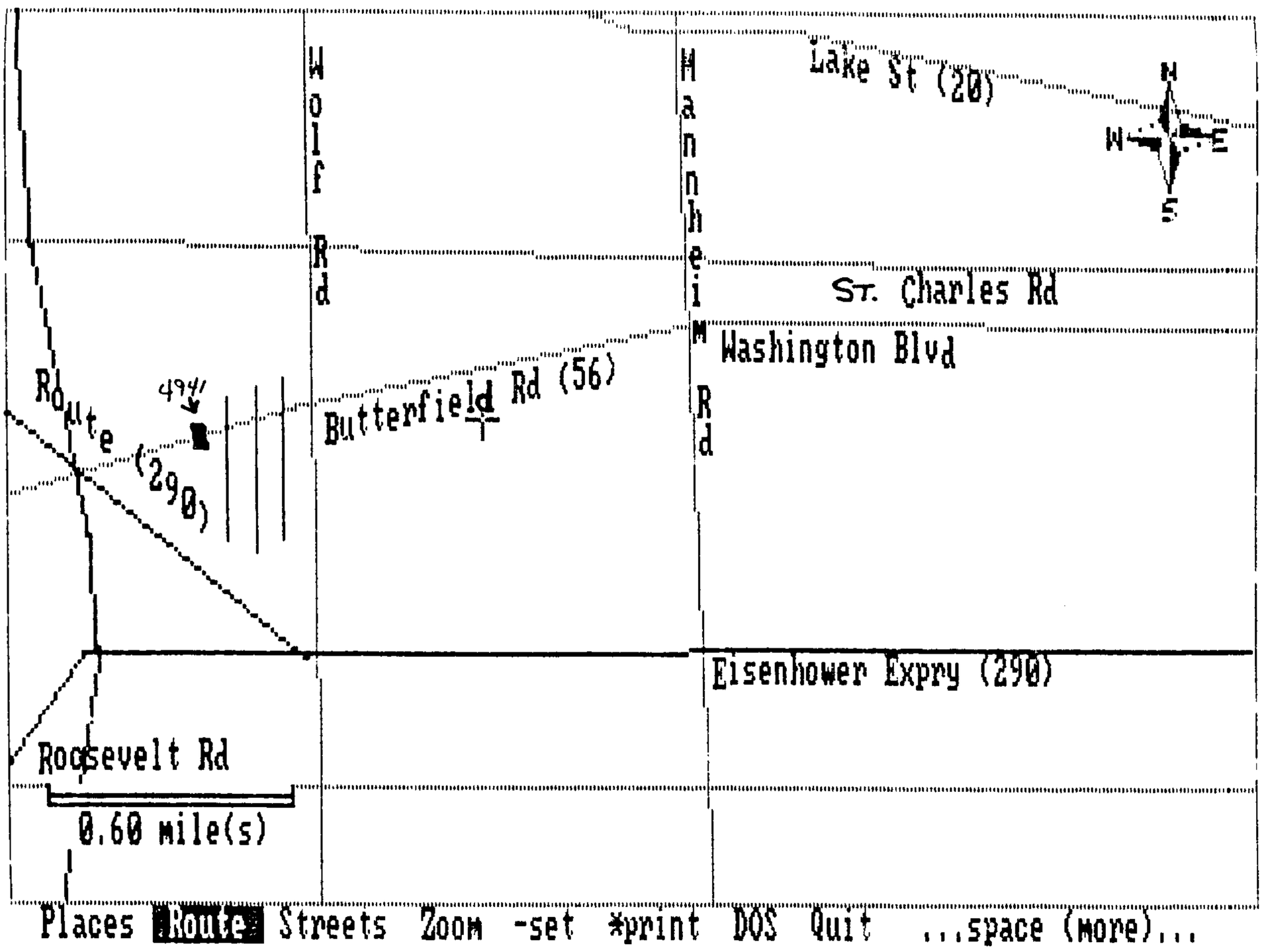
That about does it for me. I'm outta here for a few months. See you in Sept. with the Super Summer Issue (I hope). The normal deadline of Aug 1st will be extended to Aug 4 as I'll be out of town till then. So, no excuses. You have your extensions. And, I'll need the time to hopefully put together a fantastic newsletter for you. C U June 3rd.

MEMBERSHIP DUES - $21.00.



UNDERSTANDING THE TECHNOLOGY





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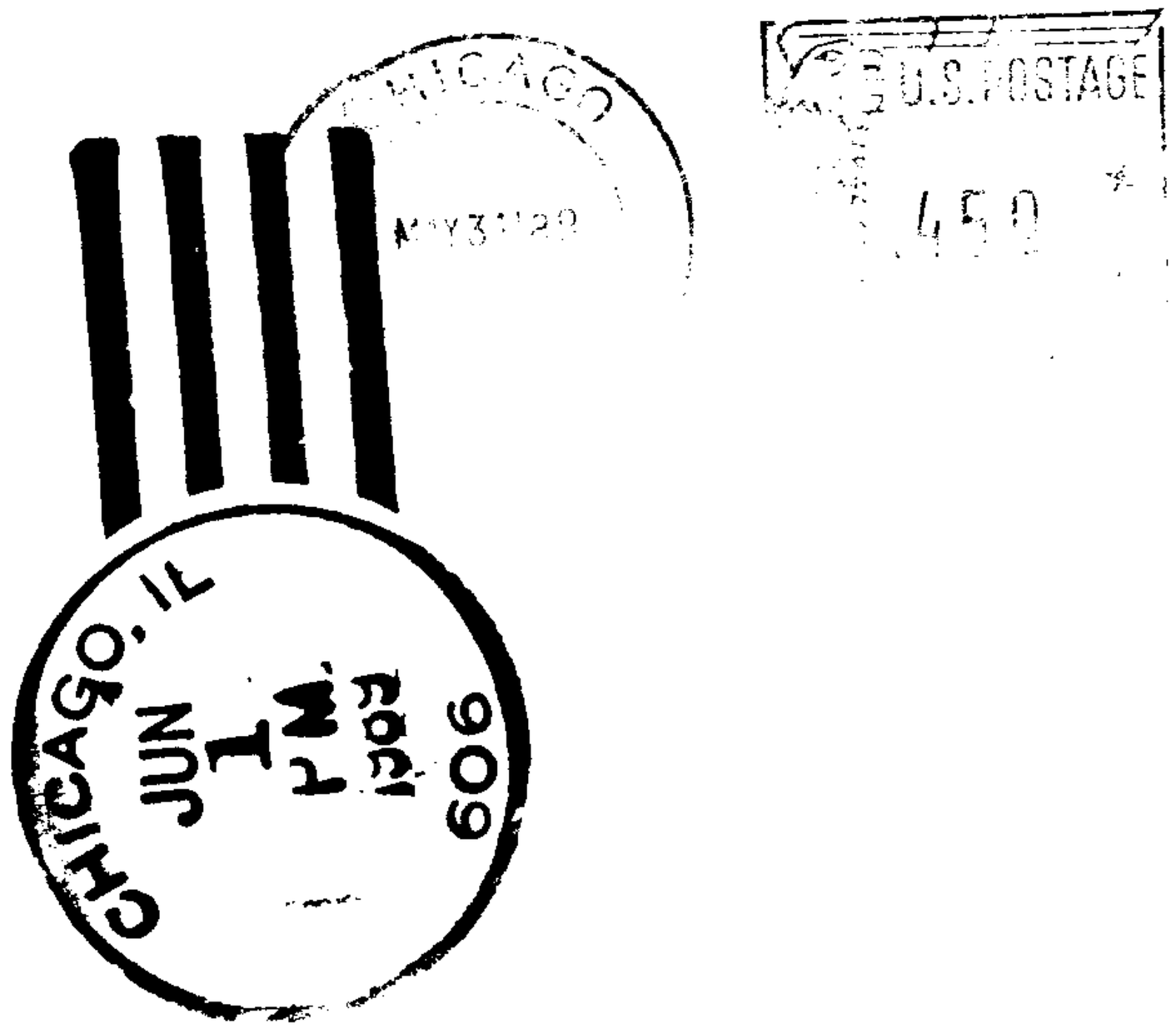

DIRECTIONS —NEW MEETING PLACE

The Chicago TI User's Group will now hold it's meetings at the BROADVIEW AMERICAN LEGION HALL.

The new location is at 4941 Butterfield Road. Hillside, IL

From north or south, take I-294 to the Eisenhower Expy, eastbound.

Go to MANNHEIM road "NORTH" exit. This is the second exit once you get on the Eisenhower.

Take Mannheim to WASHINGTON BLVD....there is a jewel food store on the corner. This is the second stop light after you get off 290. It is also called Route 56.

Turn left, (west) on WASHINGTON....go about 1 1/2 miles and you will pass WOLF RD.(stop lite).

Go about 3 1/2 blocks and the hall will be on the south side of the street.